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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,453	12/15/2003	Che-Chih Chang	ADTP0048USA	1452

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NORTH AMERICA INTERNATIONAL PATENT OFFICE (NAIPC)  
P.O. BOX 506  
MERRIFIELD, VA 22116

EXAMINER

CHOWDHURY, TARIFUR RASHID

ART UNIT PAPER NUMBER

2871

DATE MAILED: 05/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/707,453	<b>Applicant(s)</b> CHANG ET AL	
	<b>Examiner</b> Tarifur R. Chowdhury	<b>Art Unit</b> 2871	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Specification***

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### ***Claim Objections***

3. Claims 7 and 17 are objected to because of the following informalities: In claims 7 and 17, line 2, "second reflective layer" lacks antecedent basis. It appears that claims 7 should be dependent on claim 5 not claim 1 and claim 17 should be dependent on claim 15 since claims 1 and 11 do not recite a first reflective layer. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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**5. Claims 1, 2, 4-6 and 8-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Dirscheri et al., (Dirscheri), USPAT 6,683,659.**

6. Dirscheri discloses and shows in Fig. 1, a liquid crystal display comprising:

- a liquid crystal panel, the liquid crystal panel comprising:
- a first substrate (2);
- a second substrate (3) parallel with and spaced apart from the first substrate;

and

- a liquid crystal layer (1) disposed between the first substrate and the second

substrate; and

- a backlight module, operable to illuminate the liquid crystal panel for

displaying color images, and the backlight module comprising:

- an assembly of a rear substrate (9) and a front substrate (3) a hermetic

discharge gap being formed there between and mounted with power electrodes (4, 10);

- a discharge gas filled in the discharge gap, the discharge gas being

discharged by the power electrodes (col. 3, lines 62-67); and

- a plurality of fluorescent layers of different color emissions disposed on a

surface of the assembly of the rear substrate and front substrate (col. 4, lines 39-61).

Accordingly, claims 1, 2 and 10 are anticipated.

As to claims 4-6, Dirscheri also shows in Fig. 1 that a black matrix (13) (light-shielding/reflective layer) is disposed between two adjacent fluorescent layers of different color emissions.

As to claim 8, Dirscheri also shows in Fig. 1 and discloses that the fluorescent

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layers of different color emissions are arranged in a stripe shape (col. 4, lines 62-64).

As to claim 9, Dirscheri also discloses that the substrates are made of a glass material (col. 1, lines 17-18).

**7. Claims 1, 2, 8-12, 18 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Sumiyoshi et al., (Sumiyoshi), US 2003/0122771.**

Sumiyoshi discloses (page 12, paragraph 0240-0242) and shows in Figs. 22, a backlight module comprising:

- an assembly of a rear substrate (22) made of glass and a front substrate (21) made of glass, a hermetic discharge gap being formed there between and mounted with power electrodes (3, 14);
- a discharge gas (12) filled in the discharge gap, the discharge gas being discharged by the power electrodes; and
- a plurality of fluorescent layers (5) of different color emissions arranged in stripe shape disposed on a surface of the assembly of the rear substrate and front substrate.

Sumiyoshi also discloses that the backlight module is used for the LCD device. Further, inherently an LCD device includes a liquid crystal layer interposed between first and second substrates.

Sumiyoshi also discloses that one of the substrates of the backlight module is permeable to ultraviolet rays.

Accordingly, claims 1, 2, 8-12, 18 and 19 are anticipated.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**10. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dirscheri.**

11. As to the limitation of disposing the fluorescent layers of different color emissions on an outer surface of the substrates is an obvious variation of disposing the fluorescent materials on an inner surface of the substrate and thus would have been obvious to obtain an optimum backlight module.

Note: it is respectfully pointed out to applicant that if applicant disagree with the examiner's position, a restriction requirement might be proper.

**12. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dirscherl in view of Eom, US 2004/0051819.**

13. Dirscherl differs from the claimed invention because he does not explicitly disclose a second reflective layer being formed on an inner surface of the assembly.

Eom discloses a liquid crystal display using a backlight module. He further discloses that the backlight module includes a fluorescent material. He also discloses that the face (38) corresponding to the lower surface of the bottom substrate (30) where the cathode is not formed is coated with a reflection layer in order to prevent light loss (Figs. 3 and 5; page 3, paragraph 0031).

Eom is evidence that ordinary workers in the art would find a reason, suggestion or motivation to form a reflective layer on an inner surface of the assembly.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the device of Dirscherl by forming a reflective layer on an inner surface of the backlight assembly in order to prevent light loss, as per the teachings of Eom.

Accordingly, claim 7 would have been obvious.

**14. Claims 3 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sumiyoshi.**

15. As to the limitation of disposing the fluorescent layers of different color emissions on an outer surface of the substrates is an obvious variation of disposing the fluorescent materials on an inner surface of the substrate and thus would have been obvious to obtain an optimum backlight module.

Note: it is respectfully pointed out to applicant that if applicant disagree with the examiner's position, a restriction requirement might be proper.

**16. Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sumiyoshi in view of Dirscherl.**

17. Sumiyoshi differs from the claimed invention because he does not explicitly disclose that a black matrix (light-shielding/reflective layer) is disposed between two adjacent fluorescent layers of different color emissions.

Dirscherl discloses a liquid crystal display device with backlighting wherein the backlight module comprises fluorescent layers emitting different colors. He further shows that a black matrix (13) is disposed between the two adjacent fluorescent layers in order to improve contrast and color purity (Fig. 1; col. 5, lines 28-29).

Dirscherl is evidence that ordinary workers in the art would find a reason, suggestion or motivation to dispose a black matrix (light-shielding/reflective layer) between two adjacent fluorescent layers.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the backlight module of Sumiyoshi by disposing a black matrix (light-shielding/reflective layer) between the two adjacent fluorescent layers in order to improve contrast and color purity, as per the teachings of Dirscherl.

Accordingly, claims 14-16 would have been obvious.

**18. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sumiyoshi in view of Eom, US 2004/0051819.**



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19. Sumiyoshi differs from the claimed invention because he does not explicitly disclose a second reflective layer being formed on an inner surface of the assembly.

Eom discloses a liquid crystal display using a backlight module. He further discloses that the backlight module includes a fluorescent material. He also discloses that the face (38) corresponding to the lower surface of the bottom substrate (30) where the cathode is not formed is coated with a reflection layer in order to prevent light loss (Figs. 3 and 5; page 3, paragraph 0031).

Eom is evidence that ordinary workers in the art would find a reason, suggestion or motivation to form a reflective layer on an inner surface of the assembly.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the device of Sumiyoshi by forming a reflective layer on an inner surface of the backlight assembly in order to prevent light loss, as per the teachings of Eom.

Accordingly, claim 17 would have been obvious.

### ***Conclusion***

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

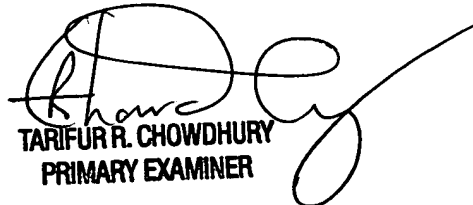
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tarifur R. Chowdhury whose telephone number is (571) 272-2287. The examiner can normally be reached on M-Th (6:30-5:00) Friday Off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TRC  
May 10, 2005

  
TARIFUR R. CHOWDHURY  
PRIMARY EXAMINER